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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/646,407

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Rong Yao Fu

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06/02/2005

Derek S. Jennings
Intellectual Property Law Dept.
IBM Corporation
P.O. Box 218
Yorktown Heights, NY 10598

EXAMINER

YANG, CLARA I

ART UNIT

PAPER NUMBER

2635

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,407

Applicant(s)

FU ET AL.

Examiner

Clara Yang

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 12, 14-21, 23 and 26 is/are rejected.
- 7) ☒ Claim(s) 9, 11, 13, 22, 24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: on page 10, line 24, change "PWM power controller" to "pulse-width modulation (PWM) power controller".

Appropriate correction is required.

Allowable Subject Matter

3. Claims 9, 11, 13, 22, 24, and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Objections

4. Claim 5 is objected to because of the following informalities: Change "PWM" to "pulse-width modulation (PWM)".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

Art Unit: 2635

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 6, 15-18, 20, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Klausner (US 5,839,097).

Referring to claims 1, 15, and 26, the limitations of claim 1 are also called for in claim 26's limitations concerning a pluggable mechanism for wireless remote control and its components (i.e., a control panel and a pluggable unit), and claim 15 is substantially similar to claim 26's limitations concerning a pluggable unit. Regarding claim 26, as shown in Figs. 1 and 2, Klausner's remote control system comprises: (a) remote control device 26 (see Col. 5, lines 16-26); (b) appliance 14 having a control panel, which has a plug-in slot 18 (i.e., receptacle) and conventional control elements 20 such as push buttons, rotary knobs, etc. so that desired operating functions can be carried out in the usual manner (see Col. 4, lines 15-21 and 55-63); and (c) control computer 17 (i.e., a pluggable unit) having a plug that mates with plug connector 19 located on the inside wall of plug-in slot 18 (see Col. 4, lines 25-30). Klausner teaches that control computer 17 is capable of: (1) receiving wireless remote control commands from remote control device 26 (see Col. 5, lines 16-26); and (2) controlling appliance 14 in response to the received wireless commands when control computer 17 is plugged into appliance 14 (see Col. 4, lines 65-67 and Col. 5, lines 16-26). Because control computer 17 is able to control appliance 14, control computer 17 must cooperate with appliance 14's control panel in order to control appliance 14 in response to the received wireless remote control commands (as called for by claims 1 and 15). Because Klausner teaches all the limitations of claim 26, Klausner also teaches the limitations of claims 1 and 15, as previously explained.

Regarding claims 2, 16, and 20, Klausner discloses that control computer 17 has: (a) an infrared (IR) receiver 24 for receiving IR signals from IR remote control device 26 (see Col. 5, lines 16-26); and (b) an electrical control means for generating the necessary control commands for all home appliances connected to bus system 10 and for the appliance to which it is connected in response to the control signals generated by IR remote control device 26 (see Col. 4, lines 15-19 and 65-67; and Col. 5, lines 16-31).

Regarding claim 3, Klausner discloses: (a) control computer 17 having an IR receiver 24 for receiving IR signals from IR remote control device 26 (see Col. 5, lines 16-26); and (b) appliance 14 having conventional control elements 20 so that the desired operating functions can be carried out in the usual manner without the action of control computer 17 (see Col. 4, lines 55-60). Thus appliance 14's control panel must have an electrical control means for controlling the appliance based on the actuation of control elements 20. Klausner also teaches that IR remote control device 26 can be used to control appliance 14 via control computer 17 (see Col. 5, lines 16-26); thus appliance 14's electrical control means also controls the appliance in response to the control signal generated by IR remote control device 26.

Regarding claims 4 and 17, as explained in the rejection of claims 2 and 16, control computer 17 has an IR receiver 24 for receiving wireless control signal transmitted via IR.

Regarding claims 6 and 18, as explained in the rejection of claim 3, Klausner's control computer 17 has an IR receiver 24 (i.e., wireless communication means). A microprocessor, as defined by the 7th edition of *IEEE 100: The Authoritative Dictionary of IEEE Standards Terms*, is an integrated circuit that contains the logic elements for manipulating data and for making decisions. Hence, Klausner's control computer 17 must also include (b) a microprocessor since control computer 17 has an application program stored in an EEPROM that enables control

Art Unit: 2635

computer 17 to control and poll each appliance's actuators and sensors and execute a functional check, diagnosis, and error search in the home appliances connected to bus system 10 (see Col. 4, lines 65-67 and Col. 5, lines 27-40). Per Klausner, control computer 17 is further able to process IR signals received by IR receiver 24 and generate control signals (see Col. 5, lines 19-26). Because control computer 17 converts the IR signals into bus telegrams and is able to control appliance 14 as well as other appliances connected to bus system 10 via bus module 9 and interface 16 (see Col. 4, lines 8-33 and 65-67; and Col. 5, lines 16-26), control computer 17 must have a control logic interface, which is an interface between the microprocessor and an external circuit (see page 5, lines 17-18 of the applicant's specification), for outputting the control signals to appliance 14 and bus module 9 (i.e., external circuits).

7. Claims 1-8, 10, 12, 14-21, 23, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu (US 6,374,079).

Referring to claims 1, 15, and 26, Hsu teaches a modular radio frequency (RF) sensor-actuator module for automated home and vehicle systems (see Abstract and Col. 2, lines 24-49). Regarding claim 26, Hsu's system, as shown in Figs. 1 and 2, comprises: (a) a remote device formed by base station (BS) 35 and personal computer (PC) 33 (see Col. 6, lines 52-55 and 65-67; and Col. 7, lines 1-3); and (b) a pluggable remote control mechanism that includes watering-system control box 53 and sensor-actuator (S/A) device 37 (see Col. 2, lines 31-49; and Col. 7, lines 3-7). Referring to Figs. 4 and 5, Hsu teaches that device 37 (i.e., pluggable unit) has a wiring interface 121, which is a plug for connecting device 37 to control box 53 (see Col. 14, lines 59-67 and Col. 15, lines 1-7); thus control box 53 must have a receptacle. It is understood that control box 53 is a control panel for controlling a watering system. Hsu also teaches that device 37 is capable of: (1) receiving RF commands from BS 35 (see Col. 7, lines 3-7; Col. 14, lines 1-14;

Art Unit: 2635

Col. 15, lines 43-48; and Col. 19, lines 26-34); and (2) cooperating with control box 53 in response to the received RF commands when device 37 is plugged into control box 53 (see Col. 14, lines 64-67; Col. 15, lines 1-7 and 43-48; and Col. 19, lines 26-34). Because the limitations of claim 1 are also called for in claim 26's limitations concerning a pluggable mechanism for wireless remote control and its components (i.e., a control panel and a pluggable unit), and claim 15 is substantially similar to claim 26's limitations concerning a pluggable unit, Hsu also teaches claims 1 and 15.

Regarding claims 2, 16, and 20, Hsu's device 37, as shown in Fig. 4, comprises: (a) RF section 101 (i.e., wireless module) for receiving RF commands and generating control signals based on the RF commands (see Fig. 10; Col. 14, lines 1-14; Col. 15, lines 13-17 and 43-48; and Col. 31, lines 4-13 and 25-49); and (b) master actuator 111 (i.e., electrical control means) for controlling control box 53 in response to the commands generated by RF section 101 (see Col. 14, lines 30-58).

Regarding claim 3, Hsu teaches that (a) device 37, as shown in Fig. 4, comprises RF section 101 (i.e., wireless module) for receiving RF commands and generating control signals based on the RF commands (see Fig. 10; Col. 14, lines 1-14; Col. 15, lines 13-17 and 43-48; and Col. 31, lines 4-13 and 25-49), and that (b) control box 53, as shown in Fig. 5, comprises mode circuitry 123 and actuator 129 (i.e., electrical control means) for controlling control box 53 in response to the control signals generated by device 37's RF section 101 (see Col. 14, lines 1-14; Col. 15, lines 13-17 and 43-48; Col. 16, lines 13-21; and Col. 31, lines 4-13 and 25-49).

Regarding claims 4 and 17, Hsu's device 37 is capable of receiving RF commands, as previously explained in the rejections of claims 1, 15, and 16.

Art Unit: 2635

Regarding claim 5, Hsu discloses that actuator 111 would turn on control box 35 (i.e., a watering system) if control box 35 were connected to device 37 (see Col. 10, lines 53-58 and Col. 14, lines 35-37). When device 37's power supply 119 is used to provide power to control box 35 (see Col. 16, lines 32-49), then actuator 111 must include an electrical switch in order to turn on control box 35.

Regarding claims 6, 7, 18, and 19, as shown in Fig. 4, Hsu's device 37 comprises: (a) RF section 101 (i.e., wireless module) for receiving RF commands and generating control signals based on the RF commands (see Fig. 10; Col. 14, lines 1-14; Col. 15, lines 13-17 and 43-48; and Col. 31, lines 4-13 and 25-49); (b) microcontroller 117 (i.e., a microprocessor or central processing unit) for executing preprogrammed instructions, processing the RF commands received by RF section 101, and generating control signals (see Col. 14, lines 20-29; Col. 15, lines 13-17; Col. 16, lines 38-58; Col. 19, lines 26-34; and Col. 31, lines 4-5); and (c) wiring interface 121 (i.e., control logic interface) for outputting the control signals to control box 53 (see Col. 14, lines 42-67 and Col. 15, lines 1-7). And as additionally called for by claims 7 and 19, Hsu's device 37 has (d) memory 109 for storing an RF protocol stack and one or more application programs that are executed by microcontroller 117 (see Col. 14, lines 20-29 and Col. 31, lines 4-13).

Regarding claims 8, 10, 21, and 23, Hsu discloses that device 37's power supply 119 may be a battery, a rechargeable battery pack, a wall plug, or a combination thereof (see Col. 14, lines 52-58 and Col. 15, lines 8-13). Hsu's device 37 must have an AC/DC converter if power supply 119 is a wall plug because (1) device 37 must be powered by a DC power source as indicated by Hsu's suggestion that power supply 119 be a battery or rechargeable battery pack, and (2) microcomputers operate on DC power. In addition, Hsu teaches using device 37's power

Art Unit: 2635

supply 119 to provide power to control box 53 (see Col. 16, lines 45-49), which is powered by a DC source (see Col. 16, lines 10-13).

Regarding claim 12, Hsu teaches that control box 53's power supply 125, which is a DC power source, can be used to power device 37 (see Col. 16, lines 10-13 and 34-42). Hsu discloses that power supply 125 derives DC power in any conventional manner. Because Hsu teaches that device 37 can be connected to other appliances (e.g., outdoor lighting system 67, alarm system 71, cooking range 61, water heater 70, television 72, etc.), and such appliances receive power from a local power outlet, control box 53 and the other appliances must have an AC/DC converter in order to supply DC power to device 37's microcontroller 117 when receiving power via a local outlet (see Col. 10, lines 53-58; Col. 11, lines 8-11, 44-49, and 57-67; and Col. 12, lines 1-15).

Regarding claim 14, Hsu's control box 53 includes mode circuitry 123 that toggles between available modes such as heavy watering, light watering, watering separate portions of a serviced area at different times, etc. (see Col. 16, lines 16-21). Hsu also states that control box 53 is programmable and that, based on feedback from precipitation sensor 127, mode circuitry 123 would temporarily shut off the watering system if precipitation sensor 127 indicates rain (see Col. 10, lines 59-62 and Col. 16, lines 21-26); thus mode circuitry 123 comprises (a) a microprocessor connected to device 37, (b) a memory for storing the various modes to be executed by the microprocessor, and (c) a control logic interface for receiving device 37's wiring interface 121 (see Fig. 5; Col. 10, lines 59-62; Col. 12, lines 4-9; and Col. 16, lines 56-58).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2635

- Hulshizer (US 4,001,527) teaches a system comprising: (a) a combination switch and outlet receptacle (i.e., control panel); and (b) an electrical timer-switch (i.e., pluggable unit) having a plug and cooperating with the control panel in order to control an object based on a user's settings.
- Zerillo (US 5,036,214) teaches a remote control switch for controlling two electric supplies, wherein the remote control switch is a pluggable unit and receives wireless command signals for controlling an object.
- Posa (US 5,731,664) teaches a wireless transmitter associated with a switched electrical connection and a receiver (i.e., a pluggable unit) therefor, wherein the receiver is connected to an object (e.g., a lamp's socket) for enabling a user to control the object via a switch.
- Fischer (US 5,895,985) teaches a system for extending a wall switch's function. Fischer's system includes a wall outlet (i.e., a control panel) and a pluggable unit cooperating with the wall outlet and receiving control signals.
- Nakazawa et al. (US 6,297,746) teach a centralized remote control system comprising a host unit 100 (i.e., remote device) and a plurality of pluggable terminals 200, wherein each terminal 200 is plugged into an appliance to be remotely controlled via host unit 100.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (571) 272-3062. The examiner can normally be reached on 8:30 AM - 7:00 PM, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2635

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CY



Clara Yang